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Via email
Delta Protection Commission
Delta Stewardship Council
Delta Conservancy

Subject: CA WaterFix – Final EIR-EIS –
Comments for the CEQA/NEPA record

Ladies and Gentlemen:

My family and I have resided in the Delta community of Walnut Grove for over 31 years. Our home is about 250 yards from the Sacramento River. Although I am retired now, I have been a member of the California Bar for 51 years, a practicing attorney, an elected member of the State Assembly, a Sacramento County Superior Court Judge, and Chief Deputy Attorney General/California Department of Justice.

I write to you now, first, because I am very concerned about the recently announced finalized Biological Opinions by the U.S. Fish and Wildlife Service (FWS) and NOAA Fisheries, together with the U.S. Bureau of Reclamation. The biological opinions analyzed the effects the twin tunnels would have on ESA-listed species, including the threatened Delta smelt, endangered Sacramento River winter-run Chinook salmon, threatened spring-run Chinook salmon, threatened North American green sturgeon, and threatened California Central Valley steelhead. Although both services found that several of these listed species, including the Delta smelt, would be adversely impacted – meaning harmed -- by the construction of the tunnels project, both arrived at an ESA "no-jeopardy" finding for the California WaterFix twin-tunnels project. I found it troubling that the announced basis of the finding was attributed to the "best available science."

As author of the book, *Green Gone Wild – Elevating Nature Above Human Rights* (Merril Press, Bellevue, WA, 2008), I am very familiar with the steadfast manner in which the Endangered Species Act has been implemented and enforced by the FWS and NMFS (NOAA Fisheries) since its enactment in 1973. In my research for the book, I found no past biological opinion on any threatened or endangered fish species that virtually abandoned listed species with a "no-jeopardy" finding as the FWS and NOAA Fisheries did to the declining fish species of the Sacramento-San Joaquin River Delta. Since its enactment, the ESA has consistently been utilized to prohibit any government or private action that would likely do "harm" (as defined in the ESA, Section 3 (19) to or jeopardize the continued existence of any endangered species. Just the harm that the California WaterFix's enormous water diversions from the Sacramento River will impose on these struggling fish species should have been enough for these federal agencies to

have granted them overt ESA protection from the construction of the twin tunnels and their intake facilities. Yet they took the passive way out.

Long-time Delta fish aficionado and informed water reporter, Dan Bacher, said it best when he testified, "I am not aware of a single project in US or world history where the construction of a project that takes more water out of a river or estuary has resulted in the restoration of that river or estuary." (Dan Bacher, "California's Scariest Halloween Horror Show: Jerry Brown's Delta Tunnels," *River News-Herald & Isleton Journal*, November, 2, 2016.) Bacher's full testimony can be found at www.dailykos.com .

But this is only the preamble to my concerns for the future of the Delta communities and the fish, avian, and other wildlife species that inhabit the Delta. The Environmental Impact Report/Study (EIR-EIS) pending approval by the federal and state agencies is far worse.

After preparing for more than a decade at a cost of a quarter-billion dollars, the California Department of Water Resources has publicly presented an epoch 30,000-page EIR-EIS document advancing Governor Jerry Brown's WaterFix plan. That plan would construct two humongous tunnels and several large stand-alone intake mechanisms to divert water from the Sacramento River and transport it 35-miles under and through the Sacramento-San Joaquin River Delta to the Clifton Court Forebay.
http://baydeltaconservationplan.com/FinalEIREIS/FinalEIR-EIS_VolumeI.aspx .

Because the state Department of Water Resources is executively bound to the Governor's project and is motivated to present the project in its best -- least oppressive -- light, the EIR/EIS is primarily an expensive effort to put lipstick on a pig. The analysis that follows provides a much more realistic description of the dire environmental, economic, and social impact that construction of the Governor's California WaterFix project would impose on the people and wildlife of the Delta, including the Legacy Communities of Locke (founded in 1915) and Walnut Grove (founded in 1850.)

Before beginning that, however, I offer this realistic time schedule to your consideration. With California WaterFix's preliminary planning and engineering

still some months from authorization, followed by some six or more years of numerous lawsuit challenges and appeals, followed by 4 years or so of land acquisition, hiring workers, and other pre-construction necessities, followed by some 11–13 years of actual construction – and assuming no significant delays due to unforeseen problems – it could easily be 2036–2040 before the California WaterFix twin tunnels project would be ready for operation. That seriously threatens the Delta Reform Act's co-equal goal of "protecting, restoring, and enhancing the Delta ecosystem." By the time the California Water/Fix project would be operational, who will remember the Delta smelt, the Sandhill cranes, and other fish, avian, and wildlife species that once inhabited the region, but had departed or gone extinct many years earlier?

Here are only a few evidentiary examples of how implementation of the California WaterFix twin tunnels project, together with the Delta Stewardship Council's (DSC) recently-approved stand-alone intake facilities, would degrade, damage, and even destroy the Delta communities, including Locke and Walnut Grove, as well as the Delta's threatened fish, avian species, and other wildlife.

● **The Massive Diversion of Sacramento River Water**. Under the "Through-Delta Conveyance" or "Dual Conveyance," as the DSC's recent Delta Plan Amendment calls it (previously known as Alternative 9; see Exhibit A, attached), two 2,800 feet-long intakes, each with a water diversion capacity of 7,500 cfs, or 15,000 cfs combined, together with large pumping plants, will be constructed on the Sacramento River -- one at the Delta Cross Channel, between Locke and Walnut Grove, and one at the Georgiana Slough, at the southern end of Walnut Grove. When added to the 9,000 cfs diversion capacity of the three northern intakes near Clarksburg, Hood, and Courtland (previously part of Alternative 4/4A) that have been in the twin tunnels plan since 2013, a total of 24,000 cubic feet of water every second could be diverted from the Sacramento River.

● **Struggling Fish Species Threatened by Diversions**: The diversion of such vast amounts of water from the river will have a drastic, even fatal, impact on the Delta's struggling fish species. Following general precipitation patterns in recent decades, there will be extremely low levels of water remaining in the river

below Georgiana Slough in nine out of ten years. The vast rainfall of January--February, 2017, was a more typical tenth year. With low levels of water for more than half the year, struggling anadromous fish (coho salmon and central valley steelhead) that swim in the ocean and return to the river to spawn will have little or no chance of surviving, while fish that remain in the river all year long will not likely survive the warm water temperature due to the low-level of the river.

Also, the ocean salt-water that enters the river channel during the high-tide of night will intrude even further inland as the waters of the river are diminished by the large intake diversions. This deeper intrusion of saltwater into the Delta will also present a survival problem to several of the declining fish species, while surely depressing their reproductive process.

These ugly scenarios are of the tunnels and intakes once they become operational. The damage, degradation and death to the fish will be worse during the 11-13 years of heavy construction in and around the river.

● The Delta Cross-Channel and Georgiana Slough intakes, each being 2,800 feet in length, would extend from the north end of Locke -- requiring the razing of the active, commercial, privately-owned Locke boathouse -- to beyond the south end of Walnut Grove, making them virtually back-to-back structures. The intakes would be accompanied by adjoining fish screens that would extend the full 2,800 feet of their lengths and rise above the top of the levee. (See simulation view of only a portion of the fish screens in Exhibit B attached.) The intake facilities would also include gantry cranes, log boom and log boom piles, riprap, and electrical buildings. (EIR/EIS, Ch.6.) Further, construction of the Georgiana Slough intake would require the relocation of a levee and associated road to create space for a boat channel and lock to allow continued boat access between the Sacramento River and Georgiana Slough. (EIR/EIS, Ch. 3.) Again, all this construction will impact those struggling fish species in the vicinity.

Placing the two intakes in Locke and on the east side of Walnut Grove would necessitate the widening of existing levees on the landside to increase crest width, to facilitate intake construction, and accommodate the realignment of the busy River Road. It is important to note that this stretch of levee road is where most of the businesses in these two communities are located (not more than 100 yards away from where the intakes will be constructed.) Thus, the construction

and placement of these two intakes would not merely diminish or degrade the two legacy communities, it would destroy them. But that's not all.

At the Georgiana Slough location, a new gated intake control structure with a flood flow capacity of 20,600 cfs would be constructed. The intake construction process at each location would also require the installation of temporary cofferdams to create a dry work area within the subject waterway. (EIR/EIS, Ch. 9.)

● **Then there are the avian species**. The Delta tunnels' route is slated to be bored through Staten Island, one of 60 islands in the Sacramento-San Joaquin River Delta. Staten Island is an important stopover on the Pacific Flyway, where, for countless winters, thousands of Sandhill cranes have returned to rest and feed on their annual flight from Alaska to Patagonia at the southern tip of South America. And vast numbers of great blue herons and snowy egrets stalk Staten Island's flooded agricultural fields at the end of fall harvest. There are also large numbers of Snow geese, Greater White-fronted geese, pelicans, great white swans, and Swainsons hawks. Altogether there are about 200 avian species that spend all or some portion of every year in the Delta.

During the twin-tunnels' and stand-alone intakes' 11-13 years of 24/7, day-and-night construction, it is almost certain that the high-decibel, pounding vibrations of the pile-driver strikes (24-32 million) and massive tunneling machines, glaring lights during night work, major alterations to both Delta's waterways and marshland habitat, and the churning tug-boat/barge traffic on the river would present an unfriendly environment to most avian species. Nor can there be any doubt that the steady parade of big trucks transporting the heavy tunneling equipment, the many sections of the tunnel pipes, and the more than 30 million cubic yards of excavated dirt and muck along rural Delta roads, would end the annual visits of the Sandhill cranes, and drive other avian species from the Delta. And even though the EIR/EIS offers mitigation measures to the great harm the twin-tunnels project will impose on avian species, they are just vacuous efforts to paper over the full extent of the damage that the tunnels' construction will cause.

● For purpose of comparison and to better understand the scope and dimension of the twin-tunnel project and the DSC's Delta Plan Amendment's footprint on the

North Delta, consider the following: The intake infrastructure facility on the Sacramento River at Freeport, near the water tower, occupies six acres of land and has a diversion capacity of nearly 300 cfs. The two 2,800 feet-long intake facilities with associated structures in Locke and Walnut Grove would have a combined diversion capacity of 15,000 cfs. The three northern intakes near Clarksburg, Hood, and Courtland, that will divert river water into two 28-feet-in-diameter tunnels and one 40-feet-in diameter tunnel, each with associated structures, have a combined diversion capacity of 9,000 cfs, This means that the use of land and the diversion capacity of the intake facilities between Clarksburg and Walnut Grove (which includes the communities of Hood, Courtland and Locke) will be some 80-times larger/greater than the land use and water diversion at the Freeport facility, In addition, more land between Clarksburg and Walnut Grove will be taken for pipelines, forebays, barge loading facilities, and other large construction projects, all of which will also impact the fish.

Also to be constructed are a 2-acre concrete plant and 2-acre fuel station on the east bank of the Sacramento River between The Meadows Slough (near the Delta Cross Channel) and the community of Locke. (EIR/EIS, Ch. 3.) This would further exacerbate the transportation impact on the River Road during the construction process.

● **The Construction Process and Changes in Community Character.** Over the estimated 11-13 year duration of the actual construction process, the increase in serious noise, traffic, air pollution, major visual degradation, and other physical and emotional pressures will erode the spirit, culture, and economies of the small Delta Legacy communities. All quality-of-life activities in Delta neighborhoods, at its schools, within its churches, libraries, community centers, businesses, and civic organizations will be irreparably degraded. As these communities and the land in between become increasingly less desirable places to live, work, farm, visit, recreate and shop -- including wine-tasting at some of the state's finest wineries, bicycling on picturesque country roads, boating or waterskiing on Delta waterways, fishing, hunting, hiking and bird-watching -- property values will decline. In time, battered by the physical, mental and emotional onslaught of the tunnels construction upheaval on one side, and being unable to sell their homes or property because there are no buyers desirous of

living in the Delta under those conditions on the other, many Delta residents, farmers, and the owners of small businesses will sadly have no alternative but to abandon their property. Some will be forced to default on their bank loans. Although Chapter 16 of the Final EIR/EIS speaks "Abandonment of Property," it fails to convey the full extent to which this will occur throughout the Delta primary construction zone; this will certainly be the case in and around the communities of Locke and Walnut Grove

The Taking of Private Property and Prime Agricultural Land. The first step in the tunnels' project, once it is authorized, would be about four years of land acquisition needed for the large North Delta intakes and the 35-mile path of the tunnels. Speaking before the Metropolitan Water District of Southern California's Special Committee on the Bay Delta, Metropolitan's Program Manager stated; 'We have planned out *a very aggressive right of way acquisition program* that will be implemented in the very early stages of staffing the office." (https://mavensnotebook.com/2017/02/08/metropolitan-special-committee-on-the-bay-delta-project-implementation-considerations-for-california-water-fix-dr-jacob-katz-on-managing-floodplain-productivity-for-multiple-benefits) So privately held land will be taken, likely by imminent domain, over the objection of the landowners.

The DWR proudly proclaims that "over 75 percent of Delta soil . . . is classified Prime by the U.S. Department of Agriculture - making Delta farms rank among some of the richest farmland in the world." But the EIR/EIS, Ch. 14, states that nearly 4,000 of these privately-owned Prime agricultural acres will be permanently taken (the DWR calls it "conversion) for physical structures associated with the construction of the twin tunnels. It is doubtful that the DWR will pay what these prime farm acres were worth before their value was depressed when news of the twin tunnel project became public.

Still other agricultural acres will be taken for staging areas for construction equipment, for the 700,000 pieces of curved concrete (tunnel segments) that will become the tunnel walls when joined together underground, and the like. DWR says these will be taken for "temporary construction use," directly precluding agricultural use during much of the construction process. However, it is not likely that any career farmer whose land is converted for more than a decade to so-called

temporary construction uses would be inclined or even still around to resume farming abused land when the project is completed. *Realistically, "temporary use" likely means permanent conversion.*

Thousands of construction workers traveling to and from the construction zone. According to "Fixing California's Water System" (https://www.californiawaterfix.com/jobs), the "California WaterFix project will create thousands of new construction jobs" during the 11-13 year course of the tunnels construction project. The DWR anticipates that many of the workers for these jobs will temporarily relocate to the five-county secondary zone, while a sizeable percentage would come from outside of the five counties. But, because there is so little available housing in the small Delta communities within the primary zone to accommodate these workers, most of them will be traveling to, thru, and from the construction worksites over narrow, two-lane levee roads, creating more traffic at all times of the day and night. It doesn't take much real-life experience to recognize that their constant, long-term presence in and around the rural Delta communities night and day over the years of construction will be overwhelming and have a deleterious impact on these communities.

Dewatering of groundwater. Because the Delta tunnels' route is in such close proximity to the Sacramento River and numerous other water channels, one of the initial steps that must be undertaken before the tunnel shafts essential to boring the tunnels can be constructed is "dewatering." The dewatering plan entails drilling wells 300-feet deep every 50-75 feet around the perimeter of the California WaterFix construction site, and for a distance of 35 miles to the Clifton Court Forebay. Once dug, each dewatering well will contain a pump capable of evacuating up to 10,300 gallons per minute. This dewatering process will go on 24/7 at each well site until the ground water has been completely evacuated and the construction site is continually protected from higher groundwater levels.

But here's the serious problem: Even before the dewatering pumps lower the groundwater level by 300 feet, "[n]earby domestic and municipal wells could experience significant reductions in well yield … and may not be able to support existing land uses." (Ch. 7-3, EIR/EIS.) With private individual groundwater wells providing the only source of potable water for a majority of residents in several

north Delta communities, the dewatering process means that many private residences in these communities will be in the untenable position of having no potable water for indefinite periods of time.

Boating and related recreational activities would be significantly impaired. Based on a statewide survey offering 300 different state waterways, California boaters ranked the Delta as one of the most popular boating destinations in the state; only the Pacific Ocean, San Francisco Bay, and the Colorado River ranked higher.

Although larger boats like cruising and houseboats are popular in the Delta, most recreational boaters use small powerboats (under 26 feet long) to experience the many Delta channels, waterskiing, and fishing. There are many Delta facilities for boaters, both private and public, including ramps, yacht clubs, and marinas; many offer fuel, supplies, waste pump-out facilities, and guest docks. Restaurants and other businesses in the Delta can be easily reached by boaters. For example, the communities of Walnut Grove and Isleton offer guest docks for temporary boat tie-up.

However, for as long as 13 years, factors such as incessant pounding noises, severely impaired visual effects, and loss of access in many areas due to construction of the north Delta intakes and the twin tunnels would result in significant disruption and decline in recreational boating opportunities. Additionally, eight barge landing structures will be constructed and extend out into the river and other channels, diminishing recreational boat traffic.

Noise and Vibrations. The constant presence of high-decibel noise and pounding vibrations associated with the twin tunnels' construction 24/7 over the 11-13-year construction process will be enough to bring even the most stout-hearted Deltans to their knees. While several other sources of noise and rumblings will be ever-present, here is one horrendous culprit.

The pile-drivers. The Delta tunnels' EIR/EIS (2016), at page 3C-12, lays out "Assumptions to Evaluate Pile Driving Impacts." From this chart that describes the locations and numbers of where piles are called for, calculations reveal that the number of pile-driver strikes during the construction phase are between 24 and 32 million, depending on the number of locations ultimately determined. Most of these pile-driver strikes will be situated along the Sacramento

River and other channels in the North Delta between the communities of Freeport and Walnut Grove, but many will also occur at the realignment of the Clifton Court Forebay/Pumping Station in the South Delta just north of the town of Tracy.

Drilling and boring the construction shafts and tunnel's path. Once the dewatering pumps have reduced and are maintaining the groundwater level at 300 feet deep around the construction sites, the tunnel-boring machines will drill down 150 feet below into the earth, first to create the large construction shafts through which the pieces of cement pipes that will form the tunnels will be lowered. Two or more enormous boring machines, side by side, will then horizontally bore through and excavate the dirt and muck up through the shafts. Above ground, a steady parade of big trailer trucks will, with the loading assistance of roaring dirt-loading equipment, remove and distribute an estimated 30 million cubic yards of dirt and smelly muck along the Delta's narrow levee roads and deposit it on sites elsewhere in the Delta. Muck will constantly leak from the mud-covered trailers and accumulate on the roadways. This scenario will become the norm in the Delta's primary zone. http://www.businessinsider.com/ap-things-to-know-about-californias-giant-twin-tunnels-project-2016-3.

Over the course of the construction period, as the tunnel boring and dirt and muck removal is occurring, 700,000 tunnel segments (curved slabs of concrete), that will be joined to form about 80,000 segmental cylinders (the individual tunnel conduits) must be unloaded from the eight barge unloading facilities, then loaded onto and transported by trucks in a timely and coordinated manner to where they will be inserted into the shafts. Once down through the shafts over 150 feet below ground, the curved concrete slabs will be joined together to form the walls of a cylinder 40-feet in diameter. This process will be performed as many times as it takes to create two side-by-side tunnels spanning 35 miles.

The loaded trucks will have to travel over the same two-lane Delta levee and rural roads and across small and vulnerable rural bridges as all regular traffic. The levees that support these roads were built 100 years ago and they and the bridges were never intended to withstand the continuous heavy truck traffic that more than decade of construction will entail. In some places the DWR will reroute and build alternative levees, roads and bridges -- some temporary, some permanent.

Much of the multi-ton tunnel boring equipment, as well as the 700,000 large pieces of concrete that will form the walls of the tunnels will come through the San Francisco Bay on barges, and up the Sacramento River to the eight barge unloading facilities. This is also fraught with logistical hurdles. It is not clear that the loaded barges could pass through or under the several draw- or swing-bridges that carry traffic over the river and other Delta channels. Like the narrow levee and rural roads, some bridges will have to be replaced by larger ones, causing more traffic issues.

To move the heavy equipment and cement pieces off the barges and over the levees onto trucks, and to the tunnel construction site -- some 1-1.5 miles east of the river, very large cranes on the land side of the levees would be utilized. Imagine the noise, air-pollution, heavily damaged roadways and potential levee collapses, and mud and muck everywhere, 24/7/365 for the duration of the tunnels' construction.

Additionally, as the tunnels' path lies in a north-south direction, beginning just south of Sacramento and ending at the Clifton Court Forebay/pumping station 35-miles to the south, the two side-by-side tunnel boring machines will have to bore 150-feet under numerous sloughs and waterways, and several heavily-traveled east-west roads, including the busy four-lane State Highway 12.

While all this geo-hydrological mayhem is going on, the tunnels' construction would impose major and long-term hardship on the substantial, often heavy, vehicular traffic of Delta residents and daily travelers who regularly pass through the Delta on their way to or from the Bay area or to and from Sacramento. On week days, school buses, commercial delivery trucks, garbage, green waste and recycling trucks, utility company trucks, and numerous other commercial vehicles use the same rural roads and narrow bridges.

As the primary-zone Delta is a major agricultural area, slow-moving farm equipment and agricultural chemical vehicles, some very large, frequently use the roadways. During harvest season large produce trucks haul tomatoes, wine grapes, pears, cherries and other crops from the fields to processing centers in other parts of the state. Tourism, the numerous wineries, restaurants, local businesses, boaters, fishermen – the entire Delta economy -- will be severely impaired, many destroyed, by the 11-13-year tunnels construction project.

Also of great concern, each of the several Delta communities' fire department trucks and personnel use the same busy rural roads and bridges to provide first-responder services for traffic accidents on Interstate 5 and levee roads, boating accidents on the Sacramento River and other rural waterways, structure fires, and grass fires – day and night. Medical calls make up 75 percent of their work. County sheriff's deputies and California Highway Patrol officers that provide law enforcement for Delta communities would face the same difficulties. Human life and safety would be at significant risk when these responders are delayed due to detours, road blockages, or long traffic lines caused by the tunnels' construction.

In light of this sad, but accurate depiction -- albeit abbreviated – of what will become of the beautiful and valuable resource we call the Delta should the ill-conceived, environment-eroding, Legacy communities-destroying, out-sized California WaterFix project be constructed, and on behalf of the people, and the fish and other wildlife species that inhabit the Delta, I urge you to withhold your approval of the EIR/EIS. There are other viable, safer, less expensive, and more quickly attained alternatives. It's high time we give them consideration. Thank you.

Sincerely,

Dave Stirling